

Notice of Allowability

Application No.

10/523,396

Examiner

Cindy D. Khuu

Applicant(s)

ALEXANDER ET AL.

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/17/2007.
2. ☒ The allowed claim(s) is/are 17-20 and 22-27.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

Pertinent Art Cited

The following US Patent Applications reveal the current state of the art:

Anderson et al. (US 2003/0184285) teaches a position sensor for sensing the position of an object (Fig. 3) having an associated magnetic field comprising: a first magnetic field sensing device (R_x) at a first position that outputs a first signal related to the magnetic field at the first position; a second magnetic field sensing device (R_y) at a second position that outputs a second signal related to the magnetic field at the second position (Paragraph 55, lines 1-5); a processor (100, cpu unit perform signal processing) to derive from the first signal and the second signal the most likely position of the position sensor relative to the object (Paragraph 56, lines 12-15; Paragraph 32, page 4, lines 3-8), wherein the processor comprises: a first calibrator (10a; calibration coil) to calibrate the first magnetic field sensing device (Paragraph 55, lines 5-11), thereby deriving a first measured magnetic field; a second calibrator to calibrate the second magnetic field sensing device, thereby deriving a second measured magnetic field (Paragraph 55, lines 7-11; each sensing signals are measured through calibration coil); a mathematical model (mutual inductance matrix) to determine a predicted (estimated) magnetic field at a given position relative to the object (Paragraph 57, page 7, lines 1-7); an estimator algorithm (first-order or least square algorithm) to compare the predicted magnetic field with the first and second measured magnetic fields, thereby calculating the most likely position of the position sensor relative to the object (Paragraph 78).

However, Anderson does not teach of methods that direct to determining a drilling location on a wing skin comprising at least the steps of: locating a position sensor on the wing skin, the position sensor comprising first and second magnetic field sensing devices, said first magnetic field sensing device located at a first position and the second magnetic field sensing device located at a second position, said second position different from said first position.

Allowable Subject Matter

Claims 17-20 and 22-27 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claim 22 is the inclusion of the limitation "determining a drilling location on a wing skin comprising at least the steps of: locating a position sensor on the wing skin, the position sensor comprising first and second magnetic field sensing devices, said first magnetic field sensing device located at a first position and the second magnetic field sensing device located at a second position, said second position different from said first position". The prior art of record, taken alone or in combination, fails to disclose or render obvious.

Claims 17-20 and 23-27 are allowed due to their dependency on claim 22.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy D. Khuu whose telephone number is (571) 272-8585. The examiner can normally be reached on M-F, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Art Unit: 2863

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMK 1/30/07


John Barlow
Supervisory Patent Examiner
Technology Center 2800